

OPTICAL PHENOMENA.

SOLAR HALOS.

Solar halos were observed in the various states and territories, as follows:

Alabama.—4th, 19th, 16th.
Arizona.—7th, 19th, 20th, 21st, 23d.
California.—5th, 6th, 7th, 15th, 16th, 19th, 21st, 23d.
Colorado.—17th.
Dakota.—13th, 15th, 17th, 20th, 25th, 26th.
Florida.—3d, 4th, 5th, 25th.
Georgia.—9th, 15th, 16th, 21st, 24th.
Illinois.—3d, 9th, 13th, 17th, 18th.
Indiana.—2d, 3d, 5th, 6th, 24th.
Iowa.—1st, 2d, 3d, 5th, 9th, 10th, 15th, 18th, 19th, 20th, 21st, 23d.
Kansas.—2d, 8th, 16th.
Kentucky.—24th.
Maine.—3d, 4th, 19th.
Maryland.—2d.
Massachusetts.—4th, 6th, 14th, 15th, 17th.
Michigan.—4th, 9th, 10th, 18th, 20th, 24th, 27th, 28th.
Minnesota.—5th, 13th, 14th, 15th.
Missouri.—18th.
Nebraska.—16th, 26th.
Nevada.—22d.
New Jersey.—2d, 9th, 15th.
New York.—3d, 4th, 6th, 9th, 10th, 16th, 17th, 18th, 22d, 24th.
North Carolina.—27th, 28th.
Ohio.—3d, 9th, 10th, 17th, 18th, 22d, 27th, 28th.
Oregon.—15th, 23d, 24th.
Pennsylvania.—4th, 10th, 14th, 24th, 25th.
South Carolina.—10th, 24th, 27th.
Tennessee.—1st, 6th, 9th, 13th, 16th, 21st, 24th.
Texas.—16th, 20th, 28th.
Vermont.—3d, 4th, 11th, 15th.
Virginia.—1st, 2d, 4th, 6th, 17th, 21st, 24th, 27th.
Washington Territory.—21st, 24th.
Wisconsin.—3d, 19th, 20th, 24th, 26th.
Wyoming.—4th, 7th, 17th, 23d, 26th, 27th.

LUNAR HALOS.

Lunar halos were observed in the various states and territories, as follows:

Alabama.—16th.
Arizona.—7th, 15th, 17th to 23d.
Arkansas.—13th.
California.—8th to 12th, 15th, 16th, 19th, 20th.
Colorado.—11th, 13th, 15th, 16th, 22d.
Connecticut.—17th, 18th.
Dakota.—9th, 11th to 16th, 18th, 21st, 22d.
District of Columbia.—16th, 17th, 18th, 20th, 21st.
Florida.—9th, 14th, 15th, 17th.
Georgia.—16th.
Illinois.—2d, 3d, 8th, 9th, 13th, 15th to 18th.
Indiana.—9th, 10th, 13th, 15th, 18th, 20th.
Iowa.—8th, 9th, 10th, 14th, 16th, 17th, 18th.
Kansas.—1st, 8th, 11th, 12th, 14th, 16th, 17th.
Kentucky.—13th, 14th, 16th.
Louisiana.—25th.
Maine.—14th, 17th, 18th, 19th.
Maryland.—16th, 17th.
Massachusetts.—14th, 17th, 18th, 19th.
Michigan.—9th, 10th, 12th, 14th, 15th, 17th, 18th.
Minnesota.—12th, 13th, 14th.
Missouri.—13th, 16th, 17th, 18th.
Montana.—15th.
Nebraska.—8th, 10th, 12th, 14th to 18th.
Nevada.—10th.
New Hampshire.—17th.
New Jersey.—14th, 16th, 17th, 20th.
New Mexico.—17th.
New York.—10th, 11th, 14th, 17th, 18th, 19th.

North Carolina.—16th, 17th.

Ohio.—8th, 9th, 11th, 13th, 17th, 18th, 19th, 21st, 24th.

Oregon.—11th, 12th, 13th, 16th.

Pennsylvania.—9th, 10th, 14th, 16th, 17th, 18th, 21st, 26th.

South Carolina.—9th, 16th, 21st, 26th.

Tennessee.—9th, 10th, 13th to 17th, 24th.

Texas.—1st to 16th, 19th, 20th, 21st, 25th.

Utah.—14th.

Vermont.—17th, 18th.

Virginia.—9th, 10th, 11th, 14th, 16th, 24th.

Washington Territory.—10th, 13th, 14th, 15th, 17th.

West Virginia.—9th, 14th.

Wisconsin.—14th, 16th, 17th.

Wyoming.—14th, 15th, 16th, 23d, 24th.

The phases of the moon during February were: new moon, 3d, 10.06 p. m.; first quarter, 11th, 9.38 p. m.; full moon, 18th, 1.06 p. m.; last quarter, 25th, 0.03 p. m.; apogee, 2d, 5.02 a. m.; perigee, 17th, 9.0 p. m.

MIRAGE.

Webster, Dakota, 8th.

Marquette, Nebraska, 1st, 8th, 10th to 14th.

Galveston, Texas, 7th.

Fort Grant, Arizona, 11th, 12th, 15th, 16th, 18th.

MISCELLANEOUS PHENOMENA.

SUN SPOTS.

Prof. David P. Todd, director of the Lawrence Observatory, Amherst, Massachusetts, furnishes the following record of sun spots for February, 1886:

Date— February, 1886. Standard time.	No. of new.		Disappeared by solar rotation.		Reappeared by solar rotation.		Total No. visible.		Remarks.
	Gr'ps	Spots	Gr'ps	Spots	Gr'ps	Spots	Gr'ps	Spots	
1, 4 p. m.	0	5	0	0	0	0	1	10†	One large spot. Do. Do.
5, 1 p. m.	1	3	0	0	0	0	2	13†	
8, 8 a. m.	1	12†	0	0	0	0	3	25†	
9, 5 p. m.	1	10†	0	5†	0	0	4	30†	
14, 10 a. m.	1	10†	0	0	0	0	4	35†	
15, 4 p. m.	0	0	0	10†	0	0	2	75†	
16, 3 p. m.	0	0	0	5†	0	0	2	10†	
17, 3 p. m.	1	3	2	10†	1	3	1	3	
22, 12 m.	1	5†	0	0	0	0	2	10†	
24, 10 a. m.	0	0	0	0	0	0	0	0	
27, 11 a. m.	1	5†	0	0	0	0	1	5†	
28, 5 p. m.	3	35†	0	0	2	20†	4	40†	

Faculae were seen at the time of every observation.

† Approximated.

Mr. H. D. Govey, of North Lewisburg, Champaign county, Ohio, reports having observed sun spots on the following dates: 1st, 3d, 4th, 8th, 9th, 18th, 20th, 22d, 24th, 26th.

The Signal Service observer at Pittsburg reports, in reference to sun spots, as follows: About 7 a. m. of the 8th a large spot was noticed on the sun's disk, the smoke in the atmosphere acting in the place of smoked glass; on the morning of the 9th the spot had moved a little to the right; its position was then near the centre of the sun's disk. Prof. J. E. Keeler, of the Allegheny Observatory, also observed the spot on the 9th, and says in reference thereto: "The large sun spot is near the centre of the sun's disk; it is somewhat oval in shape, with a bridge projecting inward near one end; the largest diameter of the umbra is about 23'', corresponding to a linear distance of about ten-thousand miles on the surface of the sun." The spot was again observed at 8.30 a. m. of the 10th.

SUNSETS.

The characteristics of the sky, as indicative of fair or foul weather for the succeeding twenty-four hours, have been observed at all Signal Service stations. Reports from one hundred and sixty-six stations show 4,646 observations to have been made, of which five were reported doubtful; of the remainder, 4,641, there were 4,090, or 88.1 per cent., followed by the expected weather.

EARTHQUAKES.

The supposed earthquake shock reported to have occurred in the western part of Connecticut at 2.20 a. m. of the 3d was

probably caused by the explosion of a dynamite magazine at Fordham, Westchester county, New York.

The New York "Herald" of February 4th, in an account of the reported earthquake, states:

If it (the earthquake) was really caused by the explosion of the powder house it goes to show that the jar and the shock of the explosion were felt about eighty-five miles distant, or else that the shock and the earthquake must have been coincident or within a few minutes of each other. Many near-by localities also report a similar experience in the way of shock and vibration characteristic of an earthquake.

The following is from the report of the "Alabama Weather Service" for February, 1886:

A slight shock of earthquake occurred at 8 p. m. of the 4th in the western and northern portions of Alabama. The observer at Valley Head has the following to say in regard to this shock: "At 8 p. m. of the 4th there was a perceptible shock of earthquake felt in this vicinity; it moved from west to east in a horizontal or oblique wave. The disturbance was a mere tremor accompanied by a rumbling noise like distant thunder; the intensity of the force was sufficient, however, to rattle windows, dishes, etc., in the neighborhood. It was still stronger six or eighteen miles east of this point." Newspaper accounts state that this wave was quite perceptible in western and southwestern parts of Alabama.

The following is an extract from the Mobile, Alabama "Daily Register," of February 17, 1886, in reference to an earthquake that occurred in Sumter, Marengo, and Choctaw counties, Alabama, on the morning of the 13th:

The earthquake seemed to have followed the bed of the Tombigbee River for thirty-two miles from Moscow, fifteen miles below Demopolis, in Sumter county, to Tompkins' Bluff, in Marengo county. The shock was felt on both sides of the river but does not appear to have penetrated the interior at all. It was preceded by a rumbling noise like the discharge of heavy cannon in the distance, and immediately followed by a trembling of the earth. In general, the development and end of the earthquake was everywhere the same. First came the explosion, then the heaving of the earth, the swaying of trees, creaking of timber, and the crash of falling bodies. The movement was over almost as soon as its presence was realized. As far as can be learned, no one was injured, and but little damage was done. At Moscow the earth rose up a half a foot and as suddenly subsided; at Beckley's Landing, Marengo county, the shock was heavy but of short duration; at Rembert's Landing, in the same county, houses were rocked up and down and the beams cracked, dishes were thrown violently from shelves, and chairs and tables overturned; at Oak Chia, Choctaw county, the earth moved sideways and returned to its place, trees were shaken, cattle thrown from their feet, and people found great difficulty in maintaining an upright position. Similar reports were received from Tompkins' Bluff.

Prof. O. J. Rockwood, jr., Princeton, New Jersey, furnishes the following in reference to the earthquake that occurred in Alabama on February 13th:

A slight shock of earthquake was felt along the Tombigbee River in Sumpter, Marengo, and Choctaw counties, Alabama, alarming the inhabitants, but doing little damage.

The newspaper accounts that "the ground heaved up a foot" and "cattle were thrown from their feet" are evidently exaggerations, as it is stated in the same sentence that "no one was hurt."

FOREST AND PRAIRIE FIRES.

Fort Elliott, Texas: prairie fires occurred in the vicinity of this station on the 17th, 18th, and 19th, during which seventy-five thousand acres of land were burned over.

Prairie and forest fires have also been reported from the following stations:

Birmingham, Alabama, 18th to 24th.
Cedar Keys, Florida, 22d, 23d, 24th.
Limona, Florida, 7th, 10th, 12th to 16th, 21st.
Stateburg, South Carolina, 21st.
Midland, Texas, 13th.
Yankton, Dakota, 22d.
Fort Shaw, Montana, 22d.
Fort Reno, Indian Territory, 15th, 18th, 19th, 20th, 22d, 25th, 26th, 27th.
Fort Sill, Indian Territory, 10th, 11th, 17th, 19th, 21st.
Fort Selden, New Mexico, 8th.

METEORS.

Archer, Alachua county, Florida: a large meteor, about 2° in diameter, moving slowly, was observed at 11.30 p. m. of the 1st; it was first seen near Aldebaran, and exploded with a dull

report near Canis Major; the light of the meteor was so intense as to illuminate the interior of dwellings.

Windsor, Shelby county, Illinois: a meteor was observed in the west at 7.30 p. m. of the 3d at an altitude of about 45°; it moved rapidly in a southwesterly direction, leaving a bright trail, and remained visible for four or five minutes (†) [probably seconds].

Northport, Leelenaw county, Michigan: a brilliant meteor was observed at 9.30 p. m. of the 3d; it started from the southwest at an altitude of about 60°, and exploded when near the earth.

Marquette, Hamilton county, Nebraska: a bright meteor of a greenish color was observed in the southwest at 9.30 p. m. of the 4th.

Monticello, Jones county, Iowa: a meteor was observed at 3.20 a. m. of the 5th, at an altitude of 60°, moving from northwest to southeast; it had the appearance of a large bolt about a yard long and three or four inches in diameter, the nucleus being somewhat larger.

Fort Buford, Dakota: a meteor of a bright white color was observed at 11.20 p. m. of the 6th; it started from an altitude of about 80°, moved in a westerly direction, and disappeared at an altitude of 20°.

Fort Buford, Dakota: at 7.46 a. m. of the 12th a meteor was observed to start from a point near the zenith and move in a direction a little south of west; during its flight it increased in brilliancy and was visible for about two and a half seconds; it disappeared at an altitude of about 70°.

Sacramento, California: a meteor of intense white color was observed at 8.27 a. m. of the 13th, moving from east to west, leaving a short trail.

Mr. Y. R. Visser, 2d officer of the s. s. "Leerdam," reports that at 10.30 p. m. of the 23d, when in about latitude 47° N., longitude 44° W., a brilliant meteor was observed, remaining visible for a couple of minutes. The light was so intense as to illuminate the entire horizon.

Nicolaus, Sutter county, California: a meteor was observed at 8.02 p. m. of the 24th, moving slowly, with an upward curve, from immediately under Polaris; it took a northeasterly course, and bore east by south when it disappeared. It was visible three or four seconds.

Monticello, Jones county, Iowa: a brilliant meteor was observed at 3.10 a. m. of the 26th, moving from northwest to southeast and leaving a brilliant trail; it burst at an altitude of 60°.

Meteors were also reported in the various states and territories, as follows:

Arizona.—Yuma, 27th.
California.—College City, 6th, 10th.
Connecticut.—Bethel, 1st.
Dakota.—Vermillion, 20th.
Florida.—Manatee, 20th to 24th.
Illinois.—Charleston, 21st; Eberle, 8th.
Indiana.—Terre Haute, 1st, 8th.
Iowa.—Davenport, 21st.
Kansas.—Fort Scott, 4th; Ottawa, 20th.
Maine.—Bar Harbor, 8th, 24th.
Maryland.—Woodstock, 22d.
Massachusetts.—Taunton, 8th.
Ohio.—Tiffin, 11th.
Tennessee.—Riddleton, 4th.
Texas.—San Antonio, 5th.
Wisconsin.—Manitowoc, 27th.
Wyoming.—Fort Bridger, 20th, 28th.

DROUGHT.

The Signal Service observer at Indianola, Texas, reported on the 12th, that owing to the dry weather stock were suffering for water.

POLAR BANDS.

Colorado.—Montrose, 15th.
Florida.—Archer, 3d, 4th, 5th, 12th, 26th.

Iowa.—Fort Madison, 3d.
Kansas.—Ninnescah, 6th.
New Jersey.—Morristown, 16th.
New York.—Haine's Falls, 3d.
Ohio.—Yellow Springs, 23d, 24th; Napoleon, 3d; Wauseon, 3d, 4th, 18th.
South Carolina.—Stateburg, 10th, 16th.
Tennessee.—Nashville, 16th, 24th.
Texas.—El Paso, 7th, 15th, 27th.
Virginia.—Wytheville, 4th, 5th, 16th, 17th, 24th; Dale Enterprise, 24th.
Wisconsin.—Prairie du Chien, 21st, 22d.
Wyoming.—Fort Bridger, 9th, 10th.

SAND AND DUST STORMS.

Yuma, Arizona, 14th.
 Fort McDowell, Arizona, 22d.
 Fort Stockton, Texas, 14th.
 El Paso, Texas, 9th, 14th.
 Lava, New Mexico, 14th.
 Walla Walla, Washington Territory, 23d.

WATER-SPOUTS.

Captain Robert Bayley, of the ship "Reporter," states that he observed numerous water-spouts on the 5th and 6th, which were attended by squalls of rain, hail, and snow. When first observed on the 5th the ship's position was latitude 36° 25' N., longitude 73° 0' W.

MIGRATION OF BIRDS.

Geese flying northward.—Cahuenga, California, 1st, 9th; Indianola, Texas, 3d, 23d; Tatoosh Island, Washington Territory, 5th, 9th; San Rafael, California, 7th; Stockham, Nebraska, 8th; Yates Centre, Kansas, 9th, 15th, 18th; Knightstown, Indiana, 11th; Fort Madison, Iowa, 13th, 28th; Westmoreland, Kansas, 14th; Elk Falls, Kansas, 15th; Yutan, Nebraska, 17th, 20th, 25th; Swanwick, Illinois, and Wellington, Kansas, 18th; Ninnescah, Kansas, 19th, 20th; Allison, Kansas, 19th to 22d; Fort McDermitt, Nevada, 20th; Fairbury, Nebraska, 21st; North Platte, Nebraska, 22d; Saint Louis, Missouri, 23d; Keokuk, Iowa, 24th; Salina, Kansas, 25th; Sacramento, California, and Cape Henlopen, Delaware, 28th.

Geese flying southward.—Fort Scott, Kansas, 12th; Cairo, Illinois, 18th; Fort Madison, Iowa, 24th, 27th.

Ducks flying northward.—Stockham, Nebraska, 8th; Westmoreland and Elk Falls, Kansas, 14th; Yates Centre, Kansas, 17th, 21st; Yutan, Nebraska, 19th, 23d; Indianola, Texas, 22d.

Ducks flying westward.—Yuma, Arizona, 1st; Yates Centre, Kansas, 18th.

Meteorological record of voluntary observers and Army post surgeons, February, 1886.

The maximum and minimum temperatures at stations marked thus (*) are from readings of other than standard instruments.

Stations.	Temperature.			Rainfall.	Stations.	Temperature.			Rainfall.
	Maximum.	Minimum.	Mean.			Maximum.	Minimum.	Mean.	
<i>Alabama.</i>	°	°	°	<i>Inches.</i>	<i>California—Cont'd.</i>	°	°	°	<i>Inches.</i>
Birmingham *	65	10	42.5	2.59	Cahuenga	70	32	51.2	1.21
Greensborough	75	14	48.0	5.34	College City	71	26	49.8	0.04
Mount Vernon B'ks.	73	18	50.5	2.37	Gaston, Fort	75	26	49.8	5.29
Prattville	87	20	43.7	4.91	Mason, Fort	71	44	57.3	trace.
<i>Arizona.</i>					Murielita *	80	31	51.2	0.48
McDowell, Fort	85	32	57.2	1.54	Nicolaus *	74	38	55.0	0.49
Verde, Fort	78	24	49.6	0.96	Oakland	67	40	54.6	0.30
Tucson				0.36	Oroville *	70	44	57.1	0.36
<i>Arkansas.</i>					Poway *	83	42	56.0	2.64
Lead Hill *	73	-11	36.2	2.61	Presidio of San F	73	38	54.5	0.10
Mount Ida	70	10	38.2	3.00	Princeton *	75	34	53.8	0.17
<i>British Columbia.</i>					Sacramento *	74	37	53.0	0.35
New Westminster	52	34		4.92	Salinas	73	38	52.6	1.47
<i>California.</i>					Santa Barbara	70	45	59.6	1.19
Alcatraz Island	68	40	54.2	0.15	San Rafael	78	32	54.5	0.28
Anderson *	66	33	51.8	0.38	Susanville	62	27	40.2	0.62
Angel Island	79	39	57.0	0.12	<i>Colorado.</i>				
Benicia Barracks	66	41	54.1	0.07	Colorado Springs	66	3	35.8	0.30
Bidwell, Fort	64	21	42.8	1.22	Lyon, Fort	70	10	34.8	trace.
Blue Lake	71	27	49.5	6.25	Pueblo	73	4	39.5	0.42
					Salida				0.17

Meteorological record of voluntary observers, etc.—Continued.

Stations.	Temperature.			Rainfall.	Stations.	Temperature.			Rainfall.
	Maximum.	Minimum.	Mean.			Maximum.	Minimum.	Mean.	
<i>Connecticut.</i>	°	°	°	<i>Inches.</i>	<i>Kansas—Cont'd.</i>	°	°	°	<i>Inches.</i>
Bethel				5.74	Wakefield *	64	-5	31.7	0.76
Hartford	54	-8	24.1	6.16	Wellington	66	-10	32.0	1.08
North Colebrook *	54	-21	18.5	2.93	W. Leavenworth *	63	-8		
Southington	56	-10	24.9	5.47	Westmoreland *	59	-10	26.0	1.20
Voluntown				11.25	Wyandotte	59	-11	25.5	0.67
<i>Dakota.</i>					Yates Centre	66	-8	31.0	1.62
Abr. Lincoln, Fort	62	-27	15.1	0.70	<i>Kentucky.</i>				
Meade, Fort	68	-16	30.6	0.67	Frankfort	59	-14	30.9	3.18
Pamblum, Fort	47	-38	1.1	4.59	Richmond	60	-10	31.9	5.62
Randall, Fort	65	-21	26.5	0.32	<i>Louisiana.</i>				
Richardson *	50	-22	16.4	1.00	Grand Coteau	73	27	54.1	1.37
Siweton, Fort	54	-36	12.1	0.65	Liberty Hill *	68	28	52.5	4.82
Sully, Fort	66	-19	25.5	0.17	Luling *	75	26		3.25
Totten, Fort	45	-35	7.1	0.67	<i>Maine.</i>				
Vermillion *	60	-26	24.1	0.59	Bar Harbor	48	-12		
Webster	61	-24	18.1	1.93	Buckfield *	58	-16		5.22
Yates, Fort	63	-24	18.4	0.22	Cornish *	47	-11	18.9	6.00
<i>District of Columbia.</i>					Gardiner	46	-10	20.6	7.25
Distributing Res't *	66	-2	32.0	3.72	Kent's Hill	48	-15	17.4	6.60
Kendall Green	64	-4	31.0	2.51	Orono *	50	-21	18.3	5.42
Receiving Res't *	64	-4	30.9	3.20	<i>Maryland.</i>				
Rock Creek Bridge *	67	0	35.1		Cumberland	52	-6	29.9	1.83
<i>Florida.</i>					Emmitsburg	56	-4	28.0	4.52
Archer *	78	23	52.6	1.57	Fallston *	55	-6	29.7	5.96
Limona *	84	32	64.5	0.94	Great Falls *	65	-2	29.2	2.79
Manatee *	82	33	58.9	0.55	McDonogh	62	-8	34.0	3.29
Meade, Fort				0.25	McHenry, Fort	64	-1	31.0	3.28
Morritt's Island	78	38	60.2	0.45	Woodstock	63	-7	28.7	4.79
Saint Augustine, Ft.	77	26	53.0	3.32	<i>Massachusetts.</i>				
Tallahassee *	72	18	49.0	1.60	Amherst a *	49	-6	25.2	4.36
<i>Georgia.</i>					Amherst b	52	-11	23.1	3.94
Athens	69	10	41.8	2.51	Blue Hill Obs'y	55	-10	23.2	8.29
Forsyth *	76	13	47.4	2.20	Deerfield	49	-12	22.9	3.24
Milledgeville	70	13	44.5	1.56	Dudley	60	-16	21.6	5.12
Quitman *	72	21	51.6	2.10	Fall River	55	-5	27.8	11.17
<i>Idaho.</i>					Heath *	52	-18		
Boise Barracks	65	19	42.3	0.38	Mendon *	49	-8	26.5	7.70
Coeur d'Alene, Fort	58	15	37.6	0.89	Milton	55	-8	26.5	7.70
<i>Illinois.</i>					New Bedford	48	-6	26.7	6.97
Anna *	59	-7	33.8	2.38	Princeton	46	-13	20.5	5.32
Bloomington	52	-17		1.43	Somerset *	58	-12	27.2	8.70
Bunker Hill	57	-12	29.6	1.33	Taunton	59	-9	27.3	8.85
Collinsville	58	-9	31.4	1.59	Worcester *	48	-9	22.2	6.32
Charleston *	55	-14	27.5	1.04	Westborough *	56	-10	26.5	6.28
Geneseo *	50	-22	22.3	1.98	Williamstown	54	-17	21.1	2.61
Mattoon *	58	-11	30.0	1.10	<i>Michigan.</i>				
Pekin *	50	-20	25.7	3.65	Birmingham	45	-20		1.36
Peoria	52	-15	29.2	1.86	Brady, Fort	47	-39	12.1	4.04
Riley	42	-21	19.9	1.61	Harrisville *	49	-27		2.15
Rockford *	44	-20	20.9	3.40	Hudson	50	-26		0.18
South Evanston	48	-15		2.25	Kalamazoo	50	-9		1.64
Swanwick	54	-6	29.8	1.31	Lansing	51	-18	22.4	1.64
Sycamore	48	-17	21.2	1.85	Mottville *	52	-18		
Windsor	54	-12	27.7	1.22	Northport	42	-16		1.68
<i>Indian Territory.</i>					Pontwater	54	-26	22.0	2.85
Reno, Fort	69	-9	38.8	1.25	Thornville	49	-11	22.8	1.09
Supply, Fort	74	0	37.4	0.40	Traverse City *	50	-30		2.51
<i>Indiana.</i>					<i>Minnesota.</i>				
Fort Wayne *	57	-3	29.5	0.87	Minneapolis	46	-29	14.3	0.55
Guilford *	55	-6	28.3	1.68	Preston *	42	-38		
Jeffersonville	59	-4	30.9	2.16	Snelling, Fort	48	-38	14.5	0.40
Knightstown	56	-12	27.4	0.69	<i>Missouri.</i>				
Lafayette	55	-15	26.2	1.32	Carthage	65	-10	35.6	
LuGrange	52	-13	23.8	1.06	Central College *	58	-14	30.4	0.90
Laconia	60	7		2.73	Centerville	85	-16		2.11
Mauzy	55	-16	23.0	1.14	Conception *	52	-22	25.6	0.75
Spiceland	54	-11	26.7	1.01	Frankford *	67	-14		1.16
Sunman *	54	-13	28.0	1.69	Pierce City *	64	-9	34.2	1.80
Terre Haute *	54	-4		1.20	Springfield *	59	-10	33.0	3.43
Vevay	60	-6	30.6	1.51	Warrenton *	58	-16	28.5	
<i>Iowa.</i>					<i>Montana.</i>				
Bancroft	44	-32	15.7	0.24	Assinaboine, Fort	63	-20	29.2	0.39
Cedar Rapids a *	48	-24	21.7	0.27	Ellis, Fort	66	-12	33.1	1.16
Cedar Rapids b *	46	-33	21.6		Keogh, Fort	57	-15	28.5	0.50
Clinton *	49	-25		1.91	Missoula, Fort	51	5	33.3	0.49
Cresco	39	-30	14.2	0.95	Shaw, Fort	66	-21	35.4	1.04
Des Moines	53	-29	22.0		<i>Nebraska.</i>				
Independence *	41	-21	19.2	0.80	Crete	63	-17	26.0	0.92
Logan		-34	22.0	0.30	De Soto *	57	-28	24.1	0.41
Fort Madison	52	-23		0.90	Fairbury *	65			0.98
Manchester	45	-20	20.0	1.09	Freemont *	62	-23	22.3	0.46
Monticello *	46	-24	19.8	1.31	Genoa	60	-17	24.5	0.39
Mount Vernon *	51	-26	21.4		Hay Springs *	63	-5	29.2	0.93
Muscatoine	48	-21	21.2	1.43	Marquette *	50			0.69
Oskaloosa a *	52	-23	21.9	0.35	Nobara, Fort	78	-15	28.4	0.84
Oskaloosa b *	52	-23			Robinson, Fort	71	-5	33.7	0.57
West Union	42	-26	17.5	0.88	Sidney, Fort	74	8	33.5	0.13
<i>Kansas.</i>					Stockham *	68			0.75
Allison	67	0	33.8	0.65	Sidney	72	10		
El Dorado	63	-3	32.7		Yutan *	52	-20	25.0	0.64
Elk Falls				1.56	<i>Nevada.</i>				
Emporia *	62	-8	34.1	trace.	Carson City	68	20	42.2	0.28
Fort Scott	65	-8	34.4	1.27	Hallock, Fort	64	10	36.2	0.50
Hay, Fort	68	-6	31.8	1.44	McDermitt, Fort	63	20	39.5	0.40
Independence *	67	-10	33.5	1.48	<i>New Hampshire.</i>				
Lawrence	62	-7	31.6	0.56	Ashland				5.27
Manhattan a	60	-7	30.2	0.39	Belmont				4.61
Manhattan b *	69	-2	31.2	0.25	Bristol Mills	49	-30	14.3	2.60
Ninnescah *	63	-2	32.8	1.47	Berlin				4.41
Ottawa *	64	-7	31.0	0.81	Lake Village				4.72
Riley, Fort	63	-9	30.8		Nashua	52	-8	23.1	5.71
Salina *	60	1	37.0	0.04	Wier's Bridge				4.49